TOBACCO INDUSTRY RESEARCH COMMITTEE

CONFIDENTIAL

TIRC Grant #155R1

Report No. 3

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March 10, 1959

I. "The Effect of Nicotine on the Thermal Circulation Index, Blood Pressure, Blood Coagulation Time and Cardiac and Peripheral Pathology of Cholesterol-Fed Rabbits."

II. "The Effect of Nicotine on the Blood Pressure, Blood Coagulation Time and Vascular (Heart, Brain and Periphery) of Atherosclerotic Rats."

I. Four groups of twelve female rabbits per group have been established as follows:

Group 1: Control
Group 2: 1 mg./Kg./day nicotine in drinking water
Group 3: 1% cholesterol and 5% cottonseed oil in feed
Group 4: Combined regimens of groups 2 and 3

All animals were approximately six weeks old at the initiation of the experiment. At this time and at four week intervals thereafter the thermal circulation index was determined for each animal. The formula used was:

$$T.C.I. = \frac{\text{Rectal temperature-skin temperature}}{\text{Skin temperature - room temperature}}$$

Skin and rectal temperatures are obtained by use of thermistor thermometers having an accuracy of $\pm$ 0.01°C. Peripheral skin temperature is determined on the shaved dorsal surface of the foot of the hindleg. The mean thermal circulation indices obtained to date along with their standard errors are presented in Table I.

The systolic blood pressures are measured by means of a Grant ear capsule. The mean systolic pressures $\pm$ the standard errors are given in Table II.

Of the original 48 animals six have already died. The deaths occurred in control 1, cholesterol 2, and nicotine-cholesterol 3.

II. The second study to determine the effect of nicotine upon the atherosclerotic rat has just been started. The groups in this study are essentially the same as with the rabbits except that male Sprague-Dawley strain rats are employed and the atherogenic stimulus consists of the following dietary additives: cholesterol 4%, cholic acid 1%, and thiouracil 0.5%. The rats are being started on this treatment at approximately 100 Gms. wt. Determinations to be conducted include: blood pressure (tail), coagulation time, and the pathology of heart, brain, and periphery (hind legs).

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Source: https://www.industrydocuments.ucsf.edu/docs/lqll0000

Table I

Group	Time in Weeks 0	4	8	12
Control	4.35±.79	4.15±.23	4.33±.25	4.37±.25
Nicotine	5.25±.41	4.92±.31	4.10±.23	3.74±.16
Cholesterol	3.86±.43	4.99±.35	4.48±.26	4.46±.12
Nicotine-Cholesterol	5.81±.64	5.42±.37	4.15±.19	4.42±.35

Table II

Control	72.00±.92	72.16±.48	74.83±.76	75.33±.89
Nicotine	77.17±1.06	78.00±1.29	78.17±1.32	81.00±1.69
Cholesterol	78.00±.88	77.33±1.31	78.10±1.06	79.27±.73
Nicotine-Cholesterol	76.17±1.22	76.17±1.22	78.20±1.09	86.00±1.46

EXPENDITURE REPORT
TO MARCH 1, 1959

SALARIES	$1,158.00
PERMANENT EQUIPMENT	465.00
EXPENDIBLE EQUIPMENT	195.00
OVERHEAD	1,005.00
TOTAL	$2,823.00

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